

F-8188

Identifier: Nobutomo TANAKA, et al.

SPECIFICATION AMENDMENTS**Page 1, line 2****~~BACKGROUND~~ BACKGROUND OF THE INVENTION****Page 4, third paragraph:**

5 The modern projector apparatus is required to have various features which
may include such a feature that the position of image projected on the screen can
be shifted. A projector apparatus which can cause the position of image on the
screen to be shifted may be constructed such that the projection optics is slidable
relative to the apparatus body in a perpendicular ~~parallel~~ relation to its optical
10 axis. It is necessary for a projector apparatus of the above-described structure to
have such an arrangement that the color temperature and/or the white balance can
be detected even when the projection optics is slid relative to the apparatus body
in a perpendicular ~~parallel~~ relation to its optical axis. More specifically, it is
necessary for the projector apparatus to be able to detect the color temperature
15 and/or white balance of the projection light from the projection optics even when
the projection light from the projection optics moves relative to the apparatus
body in a perpendicular ~~parallel~~ relation to the optical axis of the projection
optics.

Page 4, last paragraph:

20 The present invention has been made in view of the above situations and
has an object to provide a projector apparatus in which detection and adjustment

F-8188

Identifier: Nobutomo TANAKA, et al.

of the color temperature and/or white balance of the projection light can be performed in a simple and convenient manner without the need for any large-scale means; in which such detection and adjustment can be performed accurately and properly; in which the detection and adjustment of the color temperature and/or white balance of the projection light can be performed even when the projection optics is slidable relative to the apparatus body in a perpendicular ~~parallel~~ relation to the optical axis of the projection optics; and in which the detection and adjustment of the color temperature and/or white balance which the projection light actually has at that instant can be performed irrespective of the change in temperature of the apparatus body and the secular change of the components thereof.

Page 5, penult paragraph:

The present invention according to a second aspect is a projector apparatus which is constructed such that the projection optics means is slidable relative to the apparatus body in a perpendicular ~~parallel~~ relation to an optical axis of the projection optics means and that, when the projection optics means is slid relative to the apparatus body, the sensor means for detecting the color temperature and/or white balance of the projection light is also slid so as to follow the sliding projection optics means.

F-8188

Identifier: Nobutomo TANAKA, et al.

Page 7, last paragraph:

The present invention according to the second aspect is a projector apparatus comprising an apparatus body; a light source means provided within the apparatus body for outputting a white light; a color splitting device for receiving the white light from the light source means to split the white light into a plurality of primary-color lights or a color wheel means for receiving the white light from the light source means to split the white light into a plurality of primary-color lights; digital micromirror device means each for receiving a respective one of the plurality of primary-color lights from the color splitting device or the color wheel means to reflect lights for forming a picture; a projection optics means for passing the lights from the digital micromirror device means to obtain a picture enlarged to a desired size; a shutter disposed downstream of the projection optics means for blocking the light for projection passed through the projection optics means; a sensor means, attached to that surface of the shutter which blocks the light for projection, for detecting a color temperature of the light for projection; a control means for controlling the digital micromirror device means such that the lights from the digital micromirror device means form a predetermined picture in accordance with data for the picture and for performing, based on detection result from the sensor means, such a control that a white balance of the light for projection is adjusted to a desired value; a sliding means for sliding the projection optics means relative to the apparatus body in a perpendicular ~~parallel~~ relation to

F-8188

Identifier: Nobutomo TANAKA, et al.

an optical axis of the projection optics means; and a follow-up means for sliding the sensor means, when the projection optics means is slid by the sliding means relative to the apparatus body, in such a manner that the sensor means follows the projection optics means to thereby enable the sensor means to detect the color temperature of the light for projection from the sliding projection optics means.

Page 8, third full paragraph:

In the projection apparatus of the above-described structure, when the projection optics means is slid by the sliding means relative to the apparatus body in a perpendicular ~~parallel~~ relation to the optical axis of the projection optics means, the shutter supporting the sensor means for detecting the color temperature of the projection light from the projection optics means is also slid by the follow-up means so as to follow the sliding projection optics means.

Page 18, second full paragraph:

The projector apparatus 1a is further provided with a sliding means 18a for sliding the projection optics 8a relative to the casing 2a constituting the apparatus body in a perpendicular ~~parallel~~ relation to the optical axis of the projection optics 8a, and a follow-up means 19a for sliding the sensor means 10a to follow the projection optics 8a so that the sensor means 10a can detect the color temperature of the projection light from the sliding projection optics 8a when the projection optics 8a is slid relative to the casing 2a by the sliding means 18a.

F-8188

Identifier: Nobutomo TANAKA, et al.

Page 24, last paragraph:

A projector apparatus according to this modified form comprises an apparatus body; a light source means provided within the apparatus body for outputting a white light; a color wheel means for receiving the white light from the light source means to split it into a plurality of primary-color lights; digital micromirror device means each for receiving a respective one of the primary-color lights and for reflecting lights constituting a picture; a projection optics means for passing the lights from the digital micromirror device means to obtain a picture enlarged to a desired size; a shutter disposed downstream of the projection optics means for blocking the light for projection passed through the projection optics means; a sensor means, attached to that surface of the shutter which blocks the light for projection, for detecting a color temperature of the light for projection; a control means for controlling the color wheel means and the digital micromirror device means such that the lights from the plural digital micromirror device means constitute a predetermined picture in accordance with data for the picture and for performing based on detection result from the sensor means such a control that a white balance of the light for projection is adjusted to a desired value; a sliding means for sliding the projection optics means relative to the apparatus body in a perpendicular ~~parallel~~ relation to an optical axis of the projection optics means; and a follow-up means for sliding the sensor means, when the projection optics means is slid by the sliding means relative to the apparatus body, in such a manner

F-8188

Identifier: Nobutomo TANAKA, et al.

that the sensor means follows the projection optics means to thereby enable the sensor means to detect the color temperature of the light for projection from the sliding projection optics means.

Page 26, third full paragraph:

5 According to the projector apparatus in this modified form, it is possible to slidably move the projection optics means by the sliding means relative to the apparatus body (i.e., the casing) in a perpendicular ~~parallel~~ relation to the optical axis of the projection optics means as in the case of the projector apparatus 1a, so that the projected picture can be moved to a desired position on the screen.

10 **Page 26, penult paragraph:**

 Furthermore, the projector apparatus in this modified form is constructed such that when the projection optics means is slid relative to the apparatus body (casing) in a perpendicular ~~parallel~~ relation to the optical axis of the projection optics means, the follow-up means operates to cause the sensor means to be slid in
15 the same direction and over the same distance as the projection optics means so as to follow this projection optics means.

Page 27, last paragraph:

 The projector apparatus according to the second aspect of the invention is constructed such that the sensor means is attached to the shutter for blocking the
20 projection light from the projection optics means, the projection optics means being constructed so as to be slidable relative to the apparatus body in a

F-8188

Identifier: Nobutomo TANAKA, et al.

perpendicular ~~parallel~~ relation to the optical axis of the projection optics means,
and the sensor means being constructed so as to follow the projection optics
means. It is therefore possible to carry out the detection of color temperature and
the adjustment of white balance in an easy manner with a high accuracy in a light
5 condition. It is also possible to shift the position of the picture formed by the
projection light on the screen. It is further possible to carry out the detection of
color temperature and the adjustment of white balance even when the position of
the picture formed by the projection light is shifted on the screen since the sensor
means is slid so as to follow projection optics means.